

WHAT IS CLAIMED IS:

1. A virtual tape stacker comprising:
  - a server interface adapted to communicate with a server;
  - a data path adapted to communicate with a random access data storage device; and
  - a controller configured to transfer data between said server interface and said data path,said controller operational so as to manage said data on said storage device as a plurality of sequentially-ordered virtual tape volumes, wherein a loaded one of said virtual tape volumes is unloaded and a next one of said virtual tape volumes is loaded in response to an eject command from said server.
2. A virtual tape stacker according to claim 1 wherein said controller comprises:
  - a volume management table having pointers to said volumes and empty/full indicators corresponding to said volumes; and
  - a virtual tape manager accessing said pointers to determine said next one and writing said indicators to designate said loaded one.
3. A virtual tape stacker according to claim 2 further comprising:
  - a physical tape device;
  - a tape cartridge adapted to load into said tape device; and
  - a physical tape volume integrated into said sequentially-ordered virtual tape volumes when said tape cartridge is write-protected and loaded into said tape device.
4. A virtual tape stacker method comprising the steps of:
  - providing a plurality of virtual tape volumes on a random access storage, each of said virtual tape volumes configured as sequential access data storage;
  - organizing said virtual tape volumes in a sequential order;
  - ejecting a loaded one of said volumes; and
  - loading a next sequential one of said volumes according to said sequential order in response to said ejecting step.

5. The virtual tape stacker method according to claim 4 wherein said providing step comprises the substeps of:

creating a plurality of data management tables corresponding to said virtual tape volumes; and

storing a plurality of address ranges in said data management tables indicating the location of said virtual tape volumes on said random access storage.

6. The virtual tape stacker method according to claim 5 wherein said organizing step comprises the substeps of:

creating a volume management table corresponding to said random access storage;

storing a plurality of pointers in said volume management table identifying the location of each of said data management tables; and

defining an access order for said pointers.

7. The virtual tape stacker method according to claim 6 wherein said ejecting step comprises the substep of setting a load bit in one of said data management tables corresponding to said loaded one of said volumes to zero so as to indicate an empty status.

8. The virtual tape stacker method according to claim 7 wherein said loading step comprises the substeps of:

reading one of said pointers according to said access order;

locating a next one of said data management tables according to said pointer; and

setting a next load bit in said next one of said data management tables to indicate said next sequential volume is full.

9. The virtual tape stacker method according to claim 4 comprising the further steps of:

providing a physical tape volume loaded on a physical tape device; and

associating said physical tape volume as a next sequentially linked volume to one of said virtual tape volumes.

10. The virtual tape stacker method according to claim 9 comprising the further steps of:

providing a physical tape volume loaded on a physical tape device; and

associating said physical tape volume as a next sequentially linked volume to one of said virtual tape volumes.

11. A virtual tape stacker comprising:

a plurality of virtual tape volumes configured for storing sequential data on a random access data storage device;

a volume management table indicating a sequential order for said virtual tape volumes and a loaded one of said volumes; and

a virtual tape manager adapted to transfer data between said loaded volume and an application program.

12. The virtual tape stacker according to claim 11 wherein said volume management table comprises a plurality of pointers associated with said virtual tape volumes, said sequential order determined by a predetermined access order of said pointers.

13. The virtual tape stacker according to claim 11 wherein said virtual tape manager is responsive to an unload command from said application program so as to eject said loaded volume and load a next sequential one of said volumes.

14. The virtual tape stacker according to claim 11 further comprising a physical tape volume, wherein a last one of said virtual tape volumes is previous to said physical tape volume in said sequential order and a first one of said virtual tape volumes is next from said physical tape volume in said sequential order.

15. The virtual tape stacker according to claim 11 wherein said physical tape volume corresponds to a write-protected tape cartridge.